



Consumable Data Content and Transport Workgroup

Co-Chairs:

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Workgroup Mission Statement

The mission of the Consumable Data Content and Transport Workgroup is to identify the **appropriate transmittable and display / consumable data content** that coincides with California Emergency Medical Services Authority SAFR Model for EMS participation in Health Information Exchange and The Office of the National Coordinator priorities, requirements, and Interoperability Roadmap. HL7 and NEMESIS 3 standards will be utilized when possible.



Technology Recommendations

- Focused on 3 areas of technical specifications:
 - IHE Profiles (form for content and interaction)
 - Transport
 - Security
- Each of the +EMS functional areas of Search, Alert, File, and Reconcile has a set of recommendations for the demonstration projects that will be undertaken as part of the ONC +EMS grant to CalEMSA
- Work products from this workgroup are intended as guidelines for the +EMS pilots, not as hard specifications. If the pilots desire to use proprietary technology, it will be at the discretion of EMSA in their proposal and project reviews.



Transport Dataset Recommendations

- Focused on the appropriate dataset to be transported for each of the 4 +EMS functional areas of Search, Alert, File, and Reconcile. The workgroup focused on standards for the datasets which are commonly used by the sending and receiving applications.
- The ***possible*** data content for these datasets may be significantly larger than the data actually needed by the specified function, but the more important consideration is that the dataset definition is a commonly acceptable standard for the specified exchange.
- An important consideration is the proper construction of the dataset - incomplete datasets which do not have a minimum of information may not be accepted by the receiving system.



Display/Use Dataset Recommendations

- Focused on the appropriate dataset to be Displayed / Used specifically for the 4 functions.
- The workgroup focused on the actual data content needed for the function to be successfully implemented.
- An important consideration is limiting the specification to that data which is truly relevant to the patient's care and associated administrative functions.

Search Technical Specifications



Technology	Specification
IHE Profile: Patient Discovery	IHE PIX/PDQ, XCPD
IHE Profile: Query/Response	IHE XDS.b, XCA
IHE Profile: Result	CCD or consider specifically targeted SMART application using FHIR as an alternative to the Exchange profiles noted above.
Transport	SOAP for IHE Profiles; REST for FHIR - Both over the public internet using TCP/IP.
Security	SAML 2.0 Authorization with Encryption through HTTPS w/ mutual TLS or OAuth2 and OpenId Connect over HTTPS.
Comments	If the Search is successful, the patient's specific identity from the searched repository should be saved in the EMS system for future use.



Search Transport Dataset

Query: Demographics	Result Dataset
<ul style="list-style-type: none">• *Name• *Date of Birth• *Current Address (address, city, state, ZIP code)• *Current Phone Number• *Gender <p>*Indicates REQUIRED</p>	<p>Continuity of Care Document (CCD) – focus on content subsets:</p> <ul style="list-style-type: none">• Demographics, Problem List, Allergies, Medications, Advance Directives, Insurance, Language,• FHIR Resources list also included in the specification.



Search Dataset Considerations

The EHR perspective

- Once the patient match is made, hospitals / health plans want shared data to be the absolute minimum required to meet the evidence-based needs of field providers and their patients
- Will require collaborative discussions between EMS planners and contributors to and guardians of EHR



Alert Transport Dataset

Query: Demographics	Result Dataset
<p>The purpose of the Alert exchange is only to display incoming patient information on an active monitor in the ED. While the patient's identity in the ED's EHR application would be helpful if available, it is not needed and would not be Queried for.</p>	<p>Since the source of the data is the ePCR application, the recommended dataset is the NEMESIS C-CDA (v3.4 or higher). Because of the variance in how this functionality could be implemented, there could also be a proprietary subset of data passed from the ePCR to an intermediary system (not the receiver's EHR). The CCD specification is NOT recommended. The goal for this functionality is simply to inform the ED of the identity of incoming patients, +/- current status (vital signs, complaint), ETA; likely, no more is expected.</p>



Alert Dataset Considerations

The ED/EHR Perspective

- Data should be limited to minimum information for ED to prepare to receive patient (patient identity in EHR, chief complaint, current status, ETA)
- Display using existing systems, explicitly avoiding in-box messaging and additional hardware that occupies limited ED real estate



File Transport Dataset

Query: Demographics	Result Dataset
<p>Same as Search, if needed.</p> <p>Query likely not needed since the use cases all describe situations where data is pushed to a known recipient.</p> <p>NOTE: if there has not already been an explicit link established to the patient record (e.g. MRN#, or Encounter#), then an out-of-band workflow will be needed.</p>	<p>Consolidated-Clinical Document Architecture (C-CDA) using the ePCR C-CDA specification. The recommendation is to transport a superset of the information that may be needed (specifically, the full EMSDataSet). This allows flexibility in choice of which fields may be desirable for display and discrete storage.</p> <p>If only the CCD specification is used, then specific provision will need to be made for additional ePCR fields which do not map into the CCD specification. This avenue is discouraged because of its lack of scalability.</p>



File Dataset Considerations

Importance of clearly defining the consumer

- Avoid conflicts about data elements by focusing on target user
- Target of the File dataset is the ED clinician: documentation of pre-call events, field status, successful and unsuccessful treatment, complications, family contact information, EMS times as pertinent to continuity of care.
- To be useful in the clinical setting, this dataset should **omit** the following clinically extraneous elements which may be important in other data sets:
 - data to support assessment and care for billing, communication, and internal PI
 - system-oriented elements for system PI, contractual requirements
 - extensive dataset to facilitate research



Reconcile Transport Dataset

Query: Demographics	Result Dataset
None.	<p>NEMESIS C-CDA using the EMSDataSet, focus on content subsets: eOutcome, eCustomResults, dAgency.</p> <p>Other data fields from the hospital record may also be specified from data segments: Allergies, Medications, Problems (complaint), Family History, Functional Status, Discharge, Immunization, Plan of Care</p> <p>No standard record layout is specified, however, HL7 2.x and 3.x (C-CDA) should be used if appropriate. This function also lends itself to use of the ED's standard report generator functionality, and may be a structured flat file containing multiple cases.</p>



Reconcile Dataset Considerations

California Legislation Notwithstanding, HIPAA Guides Content

- AB 503 permits hospitals to disclose pertinent PHI to EMS
- HIPAA also permits disclosure to EMS of minimal PHI necessary to accomplish the stated purpose (admitted, discharged, transferred, expired)
- More robust sharing may require specific agreements



Conclusion / Comments / Questions

- Each +EMS pilot should review the recommended datasets and draw their own conclusions as to appropriateness for their implementation.
- We expect that the actual Display / Use datasets will undergo further review throughout 2016 – both within the pilot California communities and other pilots throughout the country.
- A Clinician review committee will also be evaluating the Display / Use dataset in 2016 (specifically the File and Reconcile datasets).
- This workgroup will suspend meetings while review is being done, and will reconvene in early 2017.